Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of the claims in the application.

1. (currently amended) A method ~~of thermal conditioning of~~ for thermally liberating an intracellular metabolite from a biological cell, comprising:

(a) culturing the cell in a culture medium at a culturing temperature T_M(°C); and

(b) then conditioning the cell at a conditioning temperature T_K(°C) for a conditioning time t_h (sec);

wherein ~~the "thermal equivalent" (WE), expressed~~ T_K, T_M, and t_h are related by the formula

$$~~WE =~~ t_h \cdot (T_K - T_M)~~,~~ = WE$$

wherein WE represents a "thermal equivalent" (K• sec), and is in the range ~~70-300 °~~ 90-150 K• sec, and

wherein the conditioning temperature T_K is 80-95°C.

2. (cancelled)

3. (original) A method according to claim 1, wherein the conditioning temperature T_K is always below the boiling point of the culture medium.

4. (previously amended) A method according to claim 1, wherein the conditioning time t_h is 0.5-600 sec.

5. (previously amended) A method according to claim 1, wherein the culturing temperature T_M is 26-42°C.

6. (cancelled)

7. (currently amended) A method according to claim 1, wherein the biological cell is a gram-negative prokaryote or a eukaryote, and the thermal equivalent WE is 110 ± 20 ~~K~~ K• sec.

8. (currently amended) A method according to claim 1, wherein the biological cell is a gram-positive prokaryote, and the thermal equivalent WE is 130 ± 20 ~~K~~K• sec.

9. (currently amended) A method according to claim 1,

wherein the culture medium is a liquid, which liquid medium containing the biological cell is flowed into a capillary for conditioning and,

wherein the conditioning occurs while the cell is disposed in a temperature-controlled segment of the capillary at the conditioning temperature, T_K, for the conditioning time, t_{kh}.

10. (currently amended) A method according to claim 9, wherein the ~~volumetric flow in the~~ culture medium is flowed into the temperature-controlled segment of the capillary at a volumetric flow rate of ~~is~~ 0.5-12 mL/sec.

11. (currently amended) A method according to claim 1, wherein the culturing takes place~~s~~ in a culturing vessel, and the thermal conditioning takes place in a receiving vessel, ~~in particular a sample collection vessel,~~ into which the culture medium containing the biological cell has been transferred.

12. (withdrawn-currently amended) ~~A method of recovering a component material from a biological cell, comprising the following steps:~~

~~(a) culturing the cell in a culture medium;~~

~~(b) thermally conditioning the cell according to the~~ The method of claim 1, whereby the metabolite ~~component material~~ is liberated from the ~~thermally conditioned~~ biological cell~~; and~~, further comprising:

(c) isolating the liberated ~~component material~~ metabolite from the culture medium.

13. (withdrawn-currently amended) ~~A method of quantitative determination of a component material in a biological cell, comprising the following steps:~~

~~(a) culturing the cell in a culture medium;~~

~~(b) thermally conditioning the cell according to the~~ The method of claim 1, whereby the ~~component material~~ metabolite is liberated from the ~~thermally conditioned~~ biological cell~~; and~~, further comprising:

(c) quantitatively determining the amount of liberated ~~component material~~ metabolite in the culture medium.

14. (withdrawn-currently amended) ~~A method of qualitative detection of a component material in a biological cell, comprising the following steps:~~

~~(a) culturing the cell in a culture medium;~~

~~(b) thermally conditioning the cell according to the~~ The method of claim 1, whereby the ~~component material~~ metabolite is liberated from the ~~thermally conditioned~~ biological cell~~;~~ , further comprising:

(c) qualitatively detecting the liberated component material in the culture medium.

15. (currently amended) A method according to claim 1, wherein the ~~component material is an~~ intracellular metabolite~~,~~ is selected from the group consisting of amino acids and their derivatives, amines and their derivatives, carboxylic acids, alcohols, aldehydes, ketones, phosphate esters other than nucleic acids, nucleic acids and congeners, sugars and congeners, lipids, steroids, fatty acids, vitamins, coenzymes, and inorganic ions.

16 - 21.(cancelled)

22. (New) The method of claim 1, wherein T_M is 30-38°C.

23. (New) The method of claim 1, wherein t_h is 1-180 sec.

24. (New)The method according to claim 11, wherein the receiving vessel is a sample collection vessel.